



ORANGE
thin films

Creating custom coater design





Orange Thin Films

Orange Thin Films is a Netherlands based specialist in creating customer-specific thin films systems (such as PVD, PECVD, Evaporation or combination of techniques) for processing/substrate needs. With our unique approach, we differentiate ourselves from traditional coating companies by designing the equipment around the process (customer-specific) instead of a standard coating system with fixed dimensions and a defined process. We put high emphasis on customer involvement/collaboration in the designing and realizing phase of the project, in order to better understand the specific needs and wishes of the customer. In this way, we are able to create a fully customer specific system.

As a result of having an innovative approach, own production facilities, and process know-how, our thin film deposition systems enable manufacturing of tribological, optical, reflection, semiconductor and solar devices. Due to strong growth in recent years, Orange Thin Films has launched itself as a spin-off from our parent company, D&M Vacuumsystemen B.V., that has a proven track record in offering turn-key solutions for (high-quality and complex) vacuum systems since 1992. Our goal is simple; deliver a robust, customer-specific, production/R&D tool with the best cost of ownership.



PVD thin films

Technology - deposition techniques

- Sputtering (DC/RF/DC pulsed) with (un)balanced/rotatable magnetrons or combinations
- E-beam
- Thermal evaporation
- PECVD

Technology - system features

- No standard chamber dimensions; flexible and scalable to process needs (fully customer specific)
- Coating production environment; R&D, batch coating, Inline coating

- Combination of deposition techniques (E.g. PVD with PECVD and/or etching)
- Techniques used to avoid cross contamination between deposition techniques (when combining deposition techniques)
- Deposition in combination with low-particle generation
- Full automation with dedicated, user friendly software
- Optimized pumping - and gas solutions
- Customer specific substrate fixturings with the possibility of temperature control



Project Inliner

For a solar research institute, we designed an Inliner coating system for creating contact electrodes, comprising of mixed deposition layers (co-sputtering). Challenges were finding the optimal balance in distance and magnetic configuration to achieve high uniformity specifications. Combinations of techniques were combined in this Inliner to achieve ultimate flexibility of process (PVD, co-sputtering, Ion etching etc.).



Project 3D

For a university research institute, we designed an industrial concept coating system for creating unique coatings on 3D parts. Main challenges included magnetic configuration, pulsed plasmas, and reactive sputtering. The result was a one-of-a-kind system consisting of floating shutters, a water-cooled substrate table with bias etching, and temperature measurement.



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